THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1.   A communications device which is arranged to process messages for communications, comprising a virtual machine means which includes a virtual function processor and function processor instructions for controlling operation of the device, and a virtual message processor which is arranged to be called by the function processor and which is arranged to carry out the task of assembling, disassembling and comparing messages, whereby when a message is required to be handled by the communications device the message processor is called to carry out the message handling task.

2.   A device in accordance with claim 1, further comprising a virtual protocol processor arranged to organise communications to and from the device, and protocol processor instruction means arranged to provide directions for operation of the protocol processor means.

3.   A device in accordance with claim 1 or claim 2, wherein the device includes a micro processor which runs in accordance with native software code, and the message processor is implemented as the native software code of the microprocessor.

4.   A device in accordance with claim 2, wherein the device includes a microprocessor which runs in accordance with native software code and the protocol processor is implemented as a native software code of the microprocessor.

5.   A device in accordance with claims 3 or 4, wherein the function processor is implemented as native code of the microprocessor.

6.   A device in accordance with any one of the preceding claims, wherein the message instruction means includes a set of descriptions of message data.

7.   A device in accordance with any preceding claim, wherein the message processor instruction means is implemented in software defined by the message processor,

wherein the device includes a microprocessor, and wherein the message instruction means do not require translation to the native software code of the microprocessor.

8.   A device in accordance with any one of claims 2 to 7, wherein the device includes a microprocessor which runs in accordance with native software code and wherein the protocol instruction means are implemented in software defined by the protocol processor means, and do not require translation to the native code of the microprocessor.

9.   A device in accordance with any preceding claim, wherein the device includes a microprocessor which runs in accordance with native software code, and wherein the function processor instruction means are implemented in software defined by the function processor means and do not require translation to the native code of the microprocessor.

10.   A device in accordance with any preceding claim, including a hardware abstraction layer comprising a series of routines which provide a application program interface to exercise an operating system, BIOS or hardware drivers of the device.

11.   A device in accordance with any one of the preceding claims, wherein the device is a specialised network access device arranged for communicating over a network.

12.   A device in accordance with claim (12) the device being a remote payment terminal and the messages being messages relating to remote payment transactions.

13.   A computer for developing message instructions for providing directions for operation of a message processor means in accordance with any one of the preceding claims, computer including a processing means arranged to receive data input by a user to build message instructions for the message processor means.

14.   A computer in accordance with claim 13, wherein the processing means is also arranged to receive data input

by a user to build protocol instructions for a protocol instruction means of the device of any one of claims 2 to 15.

15.   A computer including means for emulating the device of any one of claims 1 to 12, in order that the message instruction means developed for the device can be tested

16.   A method of programming a device for processing communications, comprising the steps of loading a processing means of the device with a virtual machine which includes a virtual function processor and function processor instructions for controlling operation of the device, and a virtual message processor which is arranged to be called by the function processor and which is arranged to carry out the task of assembling, disassembling and comparing messages, whereby when a message is required to be handled by the communications device the message processor is called to carry out the message handling task.

17.   A method in accordance with claim 16, comprising the further step of loading the processor means of the device with a virtual protocol processor arranged to organise communications to and from the device, and protocol processor instructions arranged to provide directions for operation of the protocol processor.

18.   A computer memory storing instructions for controlling a computing device to implement a virtual machine means which includes a virtual function processor and function processor instructions for controlling operation of the device, and a virtual message processor which is arranged to be called by the function processor and which is arranged to carry out the task of assembling, disassembling and comparing messages, whereby when a message is required to be handled by the communications device the message processor is called to carry out the message handling task.

19.   A computer readable memory in accordance with claim 18, further storing instructions for implementing message processor instruction means arranged to provide directions for operation of the message processor.

20.   A computer readable memory in accordance with claim 18 or claim 19, further storing instructions for implementing a virtual protocol processor arranged to organise communications to and from the computing device.

21.   A computer readable memory in accordance with claim 20, further storing instructions for implementing protocol processor instructions arranged to provide directions for operation of the protocol processor means.

22.   A specialised network access computer, including a microprocessor and a virtual machine means, the virtual machine means including instructions for running a virtual micro processor and an interface enabling the virtual processor to operate the microprocessor.

23.   A specialised network access computer in accordance with claim 25 being a remote payment terminal.